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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,415	09/10/2003	Greg E. Howard	TI-36081 (032350.B529)	4622
23494	7590	01/18/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				JOHNSON, JONATHAN J
ART UNIT		PAPER NUMBER		
		1725		

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/659,415	HOWARD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jonathan Johnson	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12-14-05.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 9-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Withdrawal of Allowable Subject Matter***

The indicated allowability of claims 9-20 are withdrawn in view of the newly discovered reference(s) to US 6,309,891 (Shalon). Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9,11,12,14,15,16,17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,309,891 (Shalon). Shalon teaches a bonding head having a plurality of wire passages formed therein (col. 6, ll. 35-55); where the capillary tips are capable of having wires disposed through the passages (col. 6, ll. 35-55); and a robot to form a first set of stud bumps outwardly from respective first set of bond pads (152); and a wire passage is no more than 1000 microns (col. 7, ll. 1-15); having a rectangular array (figure 9); that will simultaneously engage (figure 1). It is the examiner's position that the wire is a process limitation that holds little patentable weight in the apparatus claim.

***Claim Rejections - 35 USC § 103***

Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shalon as applied to claim 9 and 17 above, and further in view of US 5,421,503 (Perlberg). Perlberg teaches the bond head is a ceramic (col. 5, ll. 19-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the capillary to utilize a ceramic in order to have a thin wall thickness (see Perlberg col. 5, ll. 15-35)

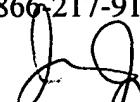
Claims 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shalon as applied to claim 9 and 17 above. Shalon teaches the desirability of using high density tips for use with smaller chips (col. 8, ll. 50-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the capillary to utilize the claimed tips in order to manufacture smaller chips (see Shalon col. 8, ll. 50-67).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Johnson  
Primary Examiner  
Art Unit 1725

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